

2016

College Student Dating Partner Drinking Profiles: Differences in Relationship Functioning and Relationship-Specific Alcohol Expectancies

Ashley N. Linden-Carmichael
Old Dominion University

Cathy Lau-Barraco
Old Dominion University

Michelle L. Kelley
Old Dominion University

Follow this and additional works at: https://digitalcommons.odu.edu/psychology_fac_pubs

 Part of the [Social Psychology Commons](#)

Repository Citation

Linden-Carmichael, Ashley N.; Lau-Barraco, Cathy; and Kelley, Michelle L., "College Student Dating Partner Drinking Profiles: Differences in Relationship Functioning and Relationship-Specific Alcohol Expectancies" (2016). *Psychology Faculty Publications*. 30. https://digitalcommons.odu.edu/psychology_fac_pubs/30

Original Publication Citation

Linden-Carmichael, A. N., Lau-Barraco, C., & Kelley, M. L. (2016). College student dating partner drinking profiles: Differences in relationship functioning and relationship-specific alcohol expectancies. *Substance Use & Misuse*, 51(7), 840-852. doi:10.3109/10826084.2016.1155613



HHS Public Access

Author manuscript

Subst Use Misuse. Author manuscript; available in PMC 2017 June 06.

Published in final edited form as:

Subst Use Misuse. 2016 June 6; 51(7): 840–852. doi:10.3109/10826084.2016.1155613.

College Student Dating Partner Drinking Profiles: Differences in Relationship Functioning and Relationship-Specific Alcohol Expectancies

Mrs Ashley N Linden-Carmichael, M.S.,

Old Dominion University, Psychology, Mills Godwin Building, Norfolk, 23529 United States

Dr Cathy Lau-Barraco, and

Old Dominion University, Psychology, Mills Godwin Building, Norfolk, 23529 United States

Dr Michelle L. Kelley

Old Dominion University, Norfolk, United States

Cathy Lau-Barraco: cbarraco@odu.edu

Abstract

Background—Although the majority of research on partner drinking styles has examined married couples, dating partners may influence one another's problem behaviors including alcohol use.

Objectives—This study identified patterns of at-risk alcohol use in college women and their dating partners using a person-centered statistical approach (i.e., latent profile analysis).

Methods—Participants were 286 college student women in dating relationships. They completed questionnaires regarding their own and their partners' drinking, alcohol use severity, intimate partner violence (IPV), relationship satisfaction, and relationship-specific alcohol expectancies. Data were collected in 2012 through 2013.

Results—Results revealed three distinct, latent classes based on both partners' alcohol outcomes. The “Low-Risk” group (58%) consisted of non-heavy drinking partners. In the “High-Risk – Higher Men” class (27%), men drank more than women; however, both men and women were high-risk drinkers. The “High-Risk – Higher Women” group (15%) consisted of high-risk drinking partners but women consumed more alcohol than men. Both high-risk couple groups were more dissatisfied in their relationships and experienced more IPV, but held stronger beliefs about how alcohol influenced their relationship.

Conclusions/Importance—Findings indicate that there are several distinct classes of dating couples that differ in relationship problems and beliefs about alcohol's impact on their relationship. Riskier couples differ in behaviors and alcohol-related beliefs from low-risk couples.

Correspondence to: Cathy Lau-Barraco, cbarraco@odu.edu.

Declaration of Interest

The first author is supported by the National Institute on Alcohol Abuse and Alcoholism (NIAAA) under a Ruth L. Kirschstein National Research Service Award F31 AA023118. The authors report no other conflicts of interest. The authors alone are responsible for the content and writing of this paper.

These findings may inform the development of more efficacious alcohol interventions tailored toward high-risk drinking dating couples.

Keywords

Dating couples; alcohol use; intimate partner violence; relationship satisfaction; alcohol expectancies

Hazardous alcohol consumption is associated with relationship problems (e.g., conflicts, relationship dissatisfaction, and intimate partner violence; see Fischer & Wiersma, 2012 for a review). However, there is research to suggest that a couple's drinking style may be a more salient predictor of relationship outcomes than mere heavy drinking (e.g., Homish & Leonard, 2007; Homish, Leonard, Kozlowski, & Cornelius, 2009). A gap in this area of research, though, is that the majority of research focusing on partner drinking styles has been based on married couples. It is possible that dating partners' drinking styles, particularly college students, may also be associated with relationship-specific alcohol expectancies that are associated with greater alcohol use and relationship problems such as intimate partner violence. Consequently, the aim of the present study was to understand relationship functioning and alcohol expectancies as a function of dating couples' drinking-related risk profiles.

Drinking Similarity among Married Couples and Relationship Adjustment

Research examining alcohol use among married couples has demonstrated that couples who drink similarly tend to experience more favorable relationship outcomes than couples who drink dissimilarly. Specifically, as compared to couples in which only one partner is a heavy drinker, those in which both partners are heavy or light drinkers report higher marital satisfaction (Homish & Leonard, 2007; Homish et al., 2009; Leonard, Smith, & Homish, 2014; Mudar, Leonard, & Soltysinski, 2001) and lower odds of intimate partner violence (IPV; Leadley, Clark, & Caetano, 2000; Quigley & Leonard, 2000). Couples in which both partners have an alcohol use disorder reported less conflict within their marriage than couples in which only one partner has an alcohol use disorder (Floyd, Cranford, Klotz Daugherty, Fitzgerald, & Zucker, 2006). These findings suggest that a mismatch in drinking within the relationship may heighten couples' risk for experiencing marital dissatisfaction and IPV.

Drinking Similarity among Dating Couples

While many studies have focused on drinking styles among married couples, little research has focused on drinking patterns in college student dating couples. During college, many individuals experience greater independence, develop new social networks, and make progress toward long-term education and employment goals (Arnett, 2000; Arnett, 2005). Also during this time, heavy drinking rates peak (Substance Abuse and Mental Health Services Administration [SAMHSA], 2014), with approximately 44% of students engaging in heavy episodic drinking (Wechsler & Nelson, 2008). The college milieu and the overall experience of this developmental stage, combined with the elevated rates of heavy drinking, may pose certain alcohol-related risks. For example, college students tend to drink at bars

and parties (Wechsler, Kuo, Lee, & Dowdall, 2000), which can promote heavy drinking behavior (Rossow, 1996; Single & Wortley, 1993). The social environment is salient to students' drinking behavior, such that most college students drink around others (e.g., O'Hare, 1990) and perceptions of peer drinking are associated with their own consumption (Neighbors, Lee, Lewis, Fossos, & Larimer, 2007). Romantic relationships in particular become an increasingly significant part of a college student's social life during this time (Arnett, 2005). Given their importance and research evidence suggesting their ability to impact one's problem behavior (e.g., Collins, 2003), it is possible that dating partners may influence one another's alcohol consumption (see Rhule-Louie & McMahon, 2007 for a review).

Though limited, research examining college students indicates that dating partners have strong mutual influences on one another's heavy episodic drinking (Mushquash, Stewart, Sherry, Mackinnon, Antony, & Sherry, 2013). In addition to heavy episodic drinking being more common among college-aged adults than any other age group, this similarity in heavy drinking may be related to one's relationship stage. That is, in an attempt to feel more secure within the relationship (see Fischer & Wiersma, 2012), dating partners in the early stages of a romantic relationship may experience a socialization effect whereby they tend to conform to their partner's drinking (e.g., Wiersma, Fischer, Cleveland, Reifman, & Harris, 2011). In contrast, older adults whose drinking behavior may be more established (Moos, Schutte, Brennan, & Moos, 2010) or those in committed relationships may be less influenced by their partners' drinking behavior. Given these potential risk factors, college student dating partners may be at risk for reciprocal heavy drinking.

Dating partners may also influence one another's alcohol-related risk. Of note, Testa and colleagues (2012) found that similarity in high-risk or problematic levels of alcohol use was more informative regarding relationship outcomes than quantity and frequency of drinking. In this vein, O'Leary and Schumacher (2003) found a threshold effect such that only high-risk levels of alcohol use, rather than linear increases in quantity or frequency, were able to detect differences in IPV. Thus, it may not be the amount of alcohol consumed, per se, but whether an individual is a high-risk drinker that contributes to partner violence. Determining whether an individual exceeds daily and weekly drinking guidelines (National Institutes of Alcohol Abuse and Alcoholism [NIAAA], 2009) is one empirically supported way to define adults (Dawson, 2000; Dawson, Grant, & Li, 2005) and college students (Hoepfner, Paskausky, Jackson, & Barnett, 2013) as high-risk drinkers. The Alcohol Use Disorder Identification Test (AUDIT; Saunders, Aasland, Babor, de la Fuente, & Grant, 1993) is another method that can be used to provide additional information regarding symptoms of alcohol dependence, beyond the amount of alcohol typically consumed. Thus, in studying high-risk drinking, it may be important to examine one's level of drinking severity and symptoms of alcohol dependence.

Few studies have examined relationship problems associated with similarity in drinking among dating partners. For example, Rapoza and Drake (2009) examined clusters of dating couples based on factors such as level of emotional commitment, heavy alcohol use, and beliefs about the effects of alcohol. Couples in which both partners were heavy drinkers and had stronger positive beliefs about the effects of alcohol were more likely to report male-to-

female perpetration of sexual aggression. Furthermore, Wiersma and Fischer (2014) found that young adult dating couples who drank heavily consumed more alcohol and were more likely to experience separation/divorce at ages 26 – 35. Thus, these results suggest that heavy drinking dating couples are at greater risk for relationship harms, such as relationship dissatisfaction and IPV, presently and prospectively.

Relationship-Specific Alcohol Expectancies

One line of research has investigated factors that may impact the association between couples' drinking style and drinking outcomes. More positive alcohol expectancies, or an individual's beliefs about the effects of alcohol, predict heavier alcohol consumption (see Jones, Corbin, & Fromme, 2001 for a review; Leonard & Homish, 2008). Relationship-specific alcohol expectancies address one's beliefs about the effects of drinking on their romantic relationship (e.g., Derrick, Leonard, Quigley, Houston, Testa, & Kubiak, 2010; Leonard & Mudar, 2004; Levitt, Derrick, & Testa, 2014; Levitt & Leonard, 2013). These types of expectancies include believing that drinking will lead to greater intimacy/openness, social pleasure/fun, sexual enhancement, or power/assertion in their relationship. Researchers have investigated the extent to which these relationship-specific alcohol expectancies predict relationship-drinking contexts. Of note is that couples tend to have more positive expectancies (e.g., feeling closer to one's partner) when drinking together and more unfavorable expectancies (i.e., feeling more in control and powerful over one's partner) when drinking apart (Levitt & Leonard, 2013). Moreover, research suggests that wives' relationship-specific alcohol expectancies are a stronger determinant of drinking behavior within the relationship than husbands' expectancies (Leonard & Mudar, 2004). However, Derrick and colleagues (2010) found that as opposed to low-drinking couples or couples in which only one member drank heavily, among couples in which both partners drank heavily, wives had greater relationship-specific alcohol expectancies. Collectively, these findings indicate that relationship-specific alcohol expectancies are an important factor contributing to the structure of romantic relationships. The association between drinking and relationship-specific alcohol expectancies has not yet been tested among college student dating couples.

Current Study

Considering the potential harms experienced by at-risk drinking dating couples and the limited studies in this area of investigation, research classifying and comparing types of dating partners on various relationship factors may further our understanding of drinking configurations within this population. Consequently, the present study aimed to identify patterns of drinking-related risk as reported by women for themselves and for their dating partner using a person-centered statistical approach (i.e., latent profile analysis [LPA]). Similar clustering techniques have been used in previous studies to identify drinking partnerships, but these have either been based on married couples (Roberts & Leonard, 1998), have primarily considered one's level of quantity and frequency of drinking in deriving groups (Wiersma, Cleveland, Herrera, & Fischer, 2010; Wiersma & Fischer, 2014; Wiersma, Fischer, & Fitzpatrick, 2009), and have used arguably less statistically advanced approaches to determine groups (i.e., cluster analysis). Given support for using problematic

levels of alcohol use as drinking partnership indicators (Moos et al., 2010; Testa et al., 2012), we used empirically supported (Dawson, 2000; Dawson et al., 2005) drinking guidelines to identify couples based on their similarity in high-risk drinking behavior. Further, we compared these groups of couples on relationship functioning (i.e., relationship satisfaction, IPV) and relationship-specific alcohol expectancies. We hypothesized that there would be distinct subgroups of drinking couples based on their level of risk. In addition, couples in which both partners engage in high-risk alcohol use would report the poorest relationship functioning and hold stronger positive alcohol-related relationship expectancies (i.e., intimacy, social pleasure/fun, sexual enhancement) and fewer negative expectancies (i.e., power/assertion) than other couple types.

Method

Participants and Procedures

Participants were 286 college women recruited from an undergraduate psychology research pool at a mid-size public university in the southeastern United States. To be eligible, women must have (1) reported consuming at least one alcoholic beverage in the past 30 days, (2) been between 18 and 25 years, (3) never been married, and (4) been involved in a dating relationship with a male partner for at least one month at the time of the study. Average age was 20.24 ($SD = 1.84$) years. Participants were primarily Caucasian (46.7%) or African American (34.7%); others were Hispanic (7.0%), Asian (3.2%), Native Hawaiian or other Pacific Islander (1.1%), American Indian or Alaskan (0.4%), or self-identified as “other” (7.0%). Year in college was as follows: freshmen (32%), junior (25.7%), sophomore (21.1%), and senior (21.1%).

Data collection was conducted via an online assessment. Following informed consent, participants were provided with self-report questionnaires that took approximately one hour to complete. For measures of alcohol consumption and use severity, participants reported on their own and their perception of their partners’ drinking behavior. Participants were given research credit as compensation for their participation. This study was IRB-approved and was conducted in accordance to APA ethical guidelines (APA, 2002).

Measures

Alcohol consumption—Alcohol use was assessed using the Daily Drinking Questionnaire (DDQ; Collins, Parks, & Marlatt, 1985). Participants reported the number of drinks they consumed each day during a typical week averaged over the past three months. Respondents completed reports regarding both their own and their perceptions of their partners’ alcohol use.

Alcohol use severity—The AUDIT (Saunders et al., 1993) was used to measure alcohol use severity. The AUDIT is a 10-item questionnaire regarding alcohol use, symptoms of alcohol dependence, and alcohol-related problems experienced (e.g., “How often during the last year have you had a feeling of guilt or remorse after drinking?”). Participants completed a version to assess their own alcohol use severity and their perception of their partner’s alcohol use severity. Response options on the first eight items used a 5-

point Likert scale ranging from 0 (*none*) to 4 (*more than five times*); the last two items were scored using a scale of 0 (*no*), 2 (*yes, but not in the last year*), and 4 (*yes, during the last year*). Higher scores represent more severe alcohol use patterns. Recent research suggests that five or higher for women and eight or higher for men indicates hazardous drinking behavior (Neumann et al., 2004; Reinert & Allen, 2007). In the present study, $\alpha = .82$ for self and .83 for partner use severity.

Relationship satisfaction—Satisfaction within the current relationship was measured using the relationship satisfaction subscale from the Investment Model Scale (Rusbult, Martz, & Agnew, 1998). The subscale consists of 5 items in which participants indicate the degree to which they agree with statements such as “I feel satisfied with our relationship” on a 0 (*do not agree at all*) to 8 (*agree completely*) response scale. In the present study, $\alpha = .97$.

Intimate partner violence—Self- and partner-perpetrated violence over the last year was assessed using the 24-item physical aggression subscale of the revised Conflict Tactics Scale (CTS2; Straus, Hamby, Boney-McCoy, & Sugarman, 1996). Participants reported the frequency in which they and/or their partner engaged in 12 violent acts (e.g., “My partner slapped me”; “I slapped my partner”). Response options ranged from *never* (0) to *more than 20 times* (7). Similar to previous research (e.g., Testa et al., 2012) in order to account for the lack of variance of IPV and the high correlation between the victimization and perpetration subscales, $r(279) = .946, p < .001$, we created an overall IPV score by combining both subscales. In the present study, $\alpha = .97$.

Relationship-specific alcohol expectancies—The Relationship Alcohol Expectancies Scale (Leonard & Mudar, 2004) is a 21-item measure assessing beliefs or expectations about how participants feel and act when drinking in the presence of their partner. The scale consists of four subscales: intimacy (e.g., “Feel more loving and accepting of your partner”; $\alpha = .88$), social pleasure/fun (e.g., “Behave in a playful or fun-loving way with your partner”; $\alpha = .91$), sexual enhancement (e.g., “Feel more desire for sex with your partner”; $\alpha = .91$), and power/assertion (e.g., “Feel confident, powerful, or in control with your partner”; $\alpha = .87$). These individual subscales were used in analyses.

Classification of Drinking Styles

We first identified the patterns of drinking configurations for women and their partners and then determined if each partner within the couple group engaged in high- or low-risk drinking. Specifically, the raw scores of the women’s and partners’ alcohol outcomes were entered into the LPA model and were then classified as similar or dissimilar high- or low-risk drinkers based on whether or not they exceeded drinking guidelines set forth by the NIAAA (2009) and gender-specific AUDIT cutoff scores for hazardous drinking (Neumann et al., 2004; Reinert & Allen, 2007). That is, a woman was classified as high-risk if she consumed an average of three or more drinks per drinking day, consumed seven or more drinks per week, and had an AUDIT score of five or higher. Male partners were classified as high-risk drinkers if they were reported consuming four or more drinks per drinking day, consuming 14 or more drinks per week, and having an AUDIT score of eight or higher.

Results

Data Analytic Strategy

Prior to conducting analyses, data were cleaned and assumptions were addressed. Missing data ranged from 0% to 7.9% across all variables. Twelve outliers were Winsorized to match the next highest data point (Barnett & Lewis, 1994). LPA was conducted using Mplus version 6.1 (Muthén & Muthén, 2008) and both multivariate analysis of variance (MANOVA) and analysis of variance (ANOVA) models were calculated using SPSS version 20. Dating couple typologies based on the female participants' reports of her and her partner's alcohol use quantity ("weekly drinking"), drinks per drinking day ("daily drinking"), and alcohol use severity were identified using LPA. LPA is a type of latent variable mixture model in which the latent variable is categorical and the indicator variables are continuous. LPA identifies classes of individuals that are similar on the indicator variables.

Within LPA, several models are estimated indicating different numbers of classes. The optimal number is determined using model comparison criteria. Model fit criteria included the Akaike Information Criteria (AIC), Bayesian Information Criteria (BIC), and sample size adjusted BIC (SSA-BIC), with lower values indicating improved model fit (Nylund, Asparouhov, & Muthén, 2007). The Lo-Mendell-Rubin (LMR) likelihood ratio test also was used to assess if the current number of classes (k) is a better fitting model than a model with one fewer class ($k - 1$; Wang & Wang, 2012). Lastly, relative entropy values were used to evaluate classification accuracy, which range from 0.0 to 1.0 in which higher values indicate greater accuracy. An entropy value of 0.80 is considered high, 0.60 is medium, and 0.40 is low (Clark, 2010). After establishing the ideal number of latent classes, ANOVA and MANOVA models were used to determine if the classes differed on relationship satisfaction, IPV, and relationship-specific alcohol expectancies.

Latent Profile Models

Models with a 1-, 2-, 3-, and 4-class solution were examined. Regarding fit statistics, although the AIC and SSA-BIC decreased across the models tested, the LMR likelihood ratio test indicated that a 3-class solution was ideal (see Table 1). Furthermore, the 3-class model had an entropy value of .855, indicating a high level of classification accuracy. As shown in Figure 1, Class 1 was characterized by low-risk alcohol use (5.82 and 4.53 drinks per week for women/men; 2.67 and 2.04 drinks per drinking day for women/men) and use severity as determined by the AUDIT (4.07 and 3.46 for women/men), representing 58.0% ($n = 166$) of the sample. Among participants in Class 1, women consumed significantly more alcohol than men. This class was labeled as the "Low-Risk" group. Both male and female partners in Class 2 (26.6%; $n = 76$) were classified as high-risk drinkers, as they exceeded NIAAA (2009) guidelines (8.56 and 15.48 drinks per week for women/men; 3.42 and 5.02 drinks per drinking day for women/men) and cutoff criteria on the AUDIT (7.36 and 12.04 for women/men); however, men in these couples drank significantly more than women. Thus, this class was labeled as the "High-Risk – Higher Men" group. Lastly, both partners in Class 3 (15.4%; $n = 44$) were characterized as high-risk drinkers as they exceeded NIAAA guidelines (20.44 and 16.69 drinks per week; 6.72 and 5.33 drinks per day

for women/men) and cutoff criteria for the AUDIT (12.78 and 10.87 for women/men); however, women drank significantly more than men in these couples. This class was labeled as the “High-Risk – Higher Women” group.¹

Group Comparisons

After determining latent classes, ANOVA models and pairwise comparisons were conducted to identify differences in relationship satisfaction and IPV between classes. As shown in Table 2, couples in the Low-Risk group (Class 1) experienced higher relationship satisfaction and lower frequencies of IPV as compared to other classes.

A MANOVA model was conducted to determine significant differences between classes regarding relationship-specific alcohol expectancies. The overall multivariate effect was significant, Pillai’s Trace (V) = 0.10, $F(8, 512) = 3.27$, $p = .001$, partial $\eta^2 = .049$. The follow-up ANOVA model indicated that the latent classes differed based on all dependent variables (see Table 2). Pairwise comparisons indicated that the High-Risk – Higher Women group (Class 3) had stronger intimacy/openness expectancies and sexual enhancement expectancies than other classes. The High-Risk – Higher Women group also reported stronger social pleasure/fun expectancies than the Low-Risk group. Lastly, the High-Risk – Higher Women group reported stronger assertion/power expectancies than other classes. The High-Risk – Higher Men group (Class 2) had higher assertion/power expectancies than the Low-Risk group.

Discussion

The current study sought to better understand the configuration of drinking-related risk among college student women in a dating relationship. In particular, we empirically derived profiles or latent groupings based on self-reported risky drinking behaviors as well as their reports of their partners’ engagement in high-risk drinking. Latent groups were compared on relationship constructs including relationship satisfaction, IPV, and relationship-specific alcohol expectancies. Three distinct subgroups of dating couples emerged; all couples were classified as similar in that both partners were high/low-risk drinkers. The first group (“Low-Risk”) were low-risk drinking women in a relationship with a low-risk drinking partner. The second group (“High-Risk – Higher Men”) was comprised of couples in which both partners were high-risk drinkers but men consumed more alcohol than women. Lastly, the third group (“High-Risk – Higher Women”) consisted of heavy drinking couples in which the women drank more than the men.

Prior research on married (Roberts & Leonard, 1998; Wiersma et al., 2010) and dating (Wiersma et al., 2009; Wiersma et al., 2010) couples has derived types of drinking couples based on both partners’ reports of quantity and frequency of alcohol use. Further, these earlier studies have found four (Wiersma et al., 2010; Wiersma & Fischer, 2014) or five (Roberts & Leonard, 1998; Wiersma et al., 2009) drinking classes. In contrast to earlier research, which has shown more dissimilarity in partner alcohol use/risk, we found more similarity in alcohol risk. The discrepancy between our findings and that of previous

¹No differences with regard to ethnicity were found among latent classes.

research may reflect the analytic technique (i.e., cluster analysis versus LPA) used, or that we specifically examined alcohol-related risk rather than solely consumption patterns. Another reason may be that the greater alcohol use and the social contexts afforded by college may result in less disparity in alcohol risk between partners at this stage in development.

An alternative explanation for the discrepancy between our findings and that of married couples (Roberts & Leonard, 1998) is that this developmental period and college, more generally, may create a culture in which high-risk alcohol use is normative (e.g., Park, Mulve, Adams, Brindis, & Irwin, 2006). Moreover, the social contexts in which college students often drink (e.g., pre-gaming parties, bars; O'Hare, 1990; Wechsler et al., 2000) may result in additional risk for similarity in high levels of partner alcohol use. For instance, in the present sample, 42% of dating partners reported binge drinking on a typical drinking occasion. Our findings are similar to Wiersma and colleagues (2010) who found 46% of dating couples reported similarity in frequency and quantity of moderate to heavy levels of drinking. In contrast, only 4% of married couples were similar in heavy and frequent alcohol consumption. A second explanation may be that a socialization effect may occur in which dating partners in particular may drink similarly to their partner (e.g., Wiersma et al., 2011). This may reflect that drinking similarly makes dating couples feel more compatible (Wiersma & Fischer, 2014) and secure (Fischer & Wiersma, 2012). Relatedly, once partners have stronger levels of commitment in their partnership, they may feel less of a need to conform to their partners' drinking (Fischer & Wiersma, 2012). Thus, married couples who are in more long-term, committed relationships may feel less pressure to drink similarly to their partner as compared to dating couples. Conversely, some research suggests that socialization effects may only occur in dating or cohabiting young adult couples, as opposed to young adult married couples (Wiersma et al., 2011), though other evidence suggests that socialization effects do occur for married couples in general (e.g., Leonard & Mudar, 2004). Relatedly, a third explanation may be that because our sample consisted of college students who tend to drink more in general, it is possible that dating couples were high-risk drinkers at the start of the relationship (i.e., selection) rather than co-creating a high-risk drinking environment throughout the relationship (i.e., socialization). Prior investigations support both selection and socialization effects among young adult dating couples (Wiersma et al., 2011). Prospective, dyadic research is needed to delineate selection effects from socialization effects in this population. Lastly, married couples may be protected against heavy drinking more so than dating couples. Some research evidence supports that heavier substance use is negatively associated with relationship stage; married couples experience the strongest negative associations to substance use as compared to other relationship statuses and thus may not drink as heavily as other couple types (Fleming, White, & Catalano, 2010). It is important to note that some discrepancies between our study findings and those of prior research may be due to the participants sampled. Specifically, whereas the majority of prior research collected data from both partners (i.e., dyadic data), we collected data from only the female partners and their reports of their partners' behaviors. Participants' reports of their partners' drinking may not be reflective of actual drinking behavior. Additional, true dyadic data is needed to replicate our study findings with dating couples.

The latent groups were compared on several measures of relationship functioning as to examine risks associated with various configurations of dating couples' drinking styles. Findings revealed that both high-risk groups had significantly lower satisfaction and higher self- and partner-perpetrated IPV than the Low-Risk class. The high-risk groups did not differ on their relationship satisfaction or frequency of IPV. When only considering the quantity of alcohol consumed, our findings are in contrast with previous research examining daily reports of dating couples' drinking (Levitt & Cooper, 2010). Specifically, Levitt and Cooper found that couples experienced adverse relationship events (e.g., feeling incompetent or stupid after experiencing a problem with their partner) after occasions in which one partner drank heavily. This association was reduced, however, when the couples drank together and drank similar amounts. Moreover, on days in which the female partner consumed more alcohol than her partner, more negative events occurred than when the male partner out consumed his partner. These findings suggest that drinking comparable amounts as one's partner is related to better relationship outcomes than drinking different amounts. Our findings, on the other hand, indicate that similarity in high levels of alcohol consumption is related to worse relationship functioning. These results may differ from Levitt and Cooper given that we assessed our groups based on level of risk, rather than number of drinks consumed. A threshold effect, rather than a linear effect, has been shown to occur when examining the effect of alcohol use on certain relationship factors (e.g., IPV; O'Leary & Schumacher, 2003). It is possible that couples experience similar levels of relationship dissatisfaction and IPV if they surpass a "high-risk threshold", regardless of the extent to which they exceeded drinking guidelines.

Regarding relationship satisfaction specifically, our results are somewhat inconsistent with similar study findings from married couples. Although prior researchers studied alcohol consumption rather than risk level, similar levels of heavy drinking were not associated with poor relationship outcomes (e.g., marital separation, divorce; Leonard et al., 2014) but rather that heavy alcohol use was only predictive of relationship problems when only one partner engaged in heavier alcohol use (e.g., Floyd et al., 2006; Homish & Leonard, 2007). In fact, Homish and Leonard found that discrepant drinking was associated with lower marital satisfaction even after taking into account heavy drinking. Although couples did not drink dissimilarly in our sample, we found that mutual heavy drinking was associated with poor relationship satisfaction. In concert with our findings and prior evidence that couples who engaged in heavy drinking as young adult dating couples reported higher levels of separation/divorce as adults (Wiersma & Fischer, 2014), high-risk drinking appears to be a unique risk factor for relationship dissatisfaction among those in the dating stage.

In terms of IPV, we found that regardless of which partner drinks more, high-risk drinking dating partners experience poorer relationship functioning than couples characterized by lower-risk alcohol consumption. Previous literature on this topic is inconsistent. Specifically, Leadley and colleagues have found that dissimilar levels of drinking is associated with greater odds of experiencing IPV concurrently (Leadley et al., 2000) and longitudinally (Quigley & Leonard, 2000). Other researchers have found that heavier drinking and dependence symptoms were stronger predictors of IPV than drinking discrepantly from one's partner (Testa et al., 2012). In addition, Wiersma and colleagues (2010) found no differences in frequency of IPV experienced based on relationship stage (i.e., dating,

cohabitating, married). One line of thought suggests that IPV may be more prevalent in married couples because they are likely to be more committed to one another and have been in a relationship longer, but in accordance with Wiersma and colleagues, it is suggested that high-risk drinking is a risk factor for IPV in dating couples. Moreover, despite findings from the married couples' literature that the male partner's alcohol use may be more influential of IPV frequency than the female partner's use (Testa et al., 2012), we found that IPV frequency was similar within our two high-risk couple groups (i.e., in which both partners exceeded NIAAA guidelines), irrespective of whether the woman or the man consumed more than the other. It is important to note that IPV often increases throughout the duration of the relationship (Stets & Pirog-Good, 1987); therefore, IPV prevention or intervention efforts may be warranted for high-risk drinking couples.

Distinct patterns were noted between class types on alcohol-related relationship expectancies. Specifically, the high-risk couples in which women drank more than the dating partners (i.e., High-Risk – Higher Women class) had stronger intimacy/openness, sexual enhancement, and assertion/power expectancies than women in other classes. This class also reported stronger expectancies around social pleasure/fun beliefs as compared to women in the Low-Risk group. Women in the High-Risk – Higher Men class had stronger sexual enhancement and assertion/power expectancies than the Low-Risk class. The findings that positive expectancies, such as beliefs that drinking together will increase intimacy, are similar to that of prior marital research that women in mutually heavy drinking couples have stronger relationship-specific alcohol expectancies than concordant light-drinking couples (Derrick et al., 2010). However, increased power/assertiveness expectancies were not hypothesized to be stronger in high-risk couple types. Based on research suggesting that power in a relationship is often associated with higher levels of conflict (e.g., Roberts, 2006) and that power expectancies were related to married couples drinking apart (Levitt & Leonard, 2013), our findings that high-risk couples had stronger positive and negative relationship-specific alcohol expectancies is unexpected. This discrepancy may be due to our findings that couples who were high-risk drinkers *did* experience more negative relationship problems than low-risk drinkers. These findings support alcohol expectancy theory (Brown, Goldman, & Christiansen, 1985; Goldman, Brown, Christiansen, & Smith, 1991; Maisto, Carey, & Bradizza, 1999), which posits that our beliefs about alcohol can influence our drinking patterns. Heavier drinkers tend to have more favorable expectations about the effects of alcohol, but because they drink more, they tend to experience more problems and thus hold unfavorable beliefs about alcohol as well (see Jones et al., 2001 for a review). These findings may be evidenced in relationships as well, such that high-risk drinking couples have a wide range of beliefs about the effects of alcohol that may both maintain their relationship, such as feeling close to their partner (e.g., intimacy/openness expectancies, social pleasure/fun) and be based in reality regarding their poor relationship functioning, such as feeling powerful and in control with their partner (i.e., power/assertion expectancies).

It is interesting to note that although the high-risk drinking couples were characterized by stronger, positive relationship-specific alcohol expectancies, these couples also were the most dissatisfied in their relationships and experienced the most IPV. Several explanations for these findings may be gleaned from prior research. First, it may be that women drink to

regulate a lack of intimacy within the relationship, but that this can predict future relationship problems. Levitt and Cooper (2010) found that women felt more intimate after drinking with their partners, yet drinking to regulate these feelings was, however, associated with more adverse relationship outcomes when women drank heavily or consumed heavier amounts than their male partner. A second explanation is that couples may not make a connection between heavy drinking and relationship problems, and instead focus on the positive effects that drinking has on their relationship. Past research has found that dating couples who mutually engaged in frequent or heavy drinking reported similar levels of relationship quality as lighter drinking couples, yet simultaneously reported higher levels of relationship dissolution and alcohol-related problems (Wiersma et al., 2009; Wiersma & Fischer, 2014). This disconnect is evidenced in past research that found binge drinking was associated with relationship problems (e.g., disagreements, less positive tone) overall, but binge drinking did not predict these same problems the next day (Fischer, Fitzpatrick, Cleveland, Lee, McKnight, & Miller, 2005). It is possible that couples may drink heavily together as a common interest that enhances feelings of compatibility (see Wiersma & Fischer, 2014), and these feelings of compatibility may strengthen positive perceptions of the effects of alcohol on one's relationship. However, ultimately, heavy drinking is associated with unfavorable outcomes, including IPV. It is important to note that although the smallest group (15%) in our sample, high-risk couples in which women consume more alcohol than men may be the most at-risk given that they have the most positive expectancies in most regards yet similarly poor levels of IPV and relationship satisfaction as the other high-risk couple group. A similar group was found in Wiersma and Fischer (2014), with findings indicating that women in heavy drinking partnerships were at the greatest risk for alcohol and relationship problems longitudinally. Further research investigating this at-risk group of women in particular is warranted. Collectively, these findings may partially explain why heavier drinking couples experienced worse relationship functioning yet reported more positive expectations of how alcohol impacts their relationship.

The results from our study have implications for future research. Given differences in relationship composition and outcomes of prior findings with married couples versus dating couples reflected in our study, it may be useful to study couples' drinking behavior as they transition from dating to cohabitating or married status using longitudinal designs. For instance, because our study findings indicated that all couples were classified as similar in their level of risk and the marital couple literature has shown that some couples drink discrepantly (e.g., Homish & Leonard, 2007; Homish et al., 2009), it may be that couples tend to drink more similarly in the dating stage of their relationship (see Fischer & Wiersma, 2012). While the current cross-sectional study only found couples who had similar levels of risk, future research is needed to determine if and under what conditions dating couples may deviate in their level of drinking in the future. As drinking discrepantly is shown to predict adverse relationship consequences in marriages (e.g., Leonard et al., 2014), researchers may benefit from a better understanding of the way in which this pattern starts to emerge. Future research investigating romantic dating partners would benefit specifically from targeting college students. The rates of heavy episodic drinking are the highest in this age group than other age groups (SAMHSA, 2014) and the college context can be an at-risk environment (Wechsler et al., 2000). Given that heavy drinking young adult couples were at greater risk

for relationship and alcohol problems as adults than other young adult couple groups (Wiersma & Fischer, 2014), research is needed to specifically follow college student dating couples over time in order to determine potential mediators and moderators of relationship functioning and alcohol outcomes.

Future research also may benefit from examining gender differences within dating and married relationships. Based on prior research, one partner's drinking can have an impact on different aspects of the relationship. For example, as noted above, negative relationship events are more likely to have occurred when women consumed more alcohol than their male partners (Levitt et al., 2010). As posited by Levitt and colleagues, this gender difference may reflect societal norms suggesting that women drinking heavily is regarded as less appropriate than men drinking heavily. Additionally, women may drink to regulate feelings of emotional closeness (Levitt et al., 2010), which in concert with our study findings, may suggest that women have a different set of expectancies than their male partners. Given the impact that gender roles and drinking may have on various aspects of relationship functioning, additional research is needed to assess differences in expectations regarding drinking and its influence on one's relationship for both the male and female partner.

Given the potential harms associated with heavy drinking partnerships and that nearly half of the college student dating couples in our sample exceeded NIAAA recommended guidelines for hazardous alcohol use (e.g., NIAAA, 2009) and reached harmful levels of alcohol use as determined by the AUDIT (Saunders et al., 1993), our findings suggest the importance of couple-based alcohol interventions for college students. Extant couples-based treatments have demonstrated efficacy in reducing alcohol use among couples where one or both partners misused alcohol (McCrary, 2012; McCrary, Epstein, Cook, Jenson, & Hildebrandt, 2009; O'Farrell & Clements, 2012). This research has, however, primarily focused on alcohol dependent drinkers and those who are married or cohabitating. Consequently, these treatments may not generalize to college students who are non-alcohol dependent or non-married. Given that heavy drinking college student couples are at risk for experiencing harms such as IPV and poor relationship satisfaction and that partners appear to bidirectionally influence one another's drinking behavior (Mushquash et al., 2013), alcohol interventions could be enhanced by including dating partners as to capitalize on the influence one's partner has on individual drinking. For instance, partners could be provided with information regarding how heavy drinking can reinforce their own and their partner's alcohol consumption, as well as increase the likelihood of experiencing relationship problems (e.g., relationship dissatisfaction, IPV). Such interventions may also emphasize relationship-specific alcohol expectancies, as they may promote heavier alcohol consumption within a relationship. As mentioned, although heavy drinking women reported stronger beliefs about alcohol's effect on the relationship, they tended to experience more adverse consequences. According to Levitt and Cooper (2010), on occasions in which women did not consume heavy amounts of alcohol or consume more than their partner, they actually experienced more positive relationship outcomes than days where the reverse occurred. Providing information that more favorable alcohol outcomes may occur at lower, rather than higher levels of drinking may correct their expectancies and, in turn reduce heavy drinking within the relationship.

There are several limitations that should be noted. First, the cross-sectional nature of our study does not allow us to determine causal relationships. Longitudinal or daily diary reports of women and their partner's drinking may help decipher the directionality of associations. Longitudinal models could clarify the influence of drinking patterns on later dyadic functioning versus dyadic functioning impacting consequent partner drinking patterns. Second, our study utilized self-report measures, which may be biased due to social desirability. Third, as mentioned previously, because the current study was part of a larger study investigating women's reasons for choosing certain dating partners, we only obtained women's reports of their partner's alcohol use and related study variables (i.e., expectancies, IPV, relationship satisfaction). Although some research supports that collateral reports of partners' substance use is valid (Kedia & Relyea, 2008), both partner reports are needed in order to assess true dyadic relationships among all study variables. Finally, it is important to note that in Classes 1 and 3, women reported higher levels of alcohol consumption than their male partners. These findings are in contrast with research demonstrating that men tend to drink more than women (e.g., Chen, Dufour, & Yi, 2004/2005; O'Donnell, Wardle, Dantzer, & Steptoe, 2006). However, this discrepancy may reflect research findings that women are starting to drink more similarly to men (e.g., Keyes, Grant, & Hasin, 2008; O'Malley & Johnston, 2002; Pedersen & LaBrie, 2007) and that women exceeded NIAAA (2009) weekly drinking guidelines more often than their male counterparts (Hoepfner et al., 2013).

The current study findings contribute to the limited body of research on high-risk drinking among college student dating couples. We demonstrated that there are several distinct classes of dating couples that differ in relationship problems and beliefs about alcohol's impact on their relationship. In concert with findings from past research, our results support that romantic partners at this stage may share in one another's drinking behaviors. The divergent results from our study and that of the married couple literature suggests that more research is needed to further explore factors that contribute to poorer relationship functioning among college student dating partners. Findings may inform the development of interventions that target high-risk drinking dating couples.

Acknowledgments

Funding: National Institutes of Health (F31 AA023118)

Glossary

Relationship-specific alcohol expectancies

Beliefs about the effects of drinking on one's romantic relationship

Latent Profile Analysis

A latent variable mixture model in which the latent variable is categorical and the indicator variables are continuous. This person-centered statistical approach can be used to identify subgroups of individuals based on their similarities on indicator variables

References

- American Psychological Association. Ethical principles of psychologists and code of conduct. *American Psychologist*. 2002; 57:1060–1073. DOI: 10.1037/0003-066X.57.12.1060 [PubMed: 12613157]
- Arnett JJ. Emerging adulthood: A theory of development from the late teens through the twenties. *American Psychologist*. 2000; 55:469–480. DOI: 10.1037/0003-066X.55.5.469 [PubMed: 10842426]
- Arnett JJ. The developmental context of substance use in emerging adulthood. *Journal of Drug Issues*. 2005; 35:235–253. DOI: 10.1177/002204260503500202
- Barnett, V.; Lewis, T. *Outliers in statistical data*. John Wiley & Sons; Chichester, New York: 1994. p. 608
- Brown SA, Goldman MS, Christiansen BA. Do alcohol expectancies mediate drinking patterns of adults? *Journal of Consulting and Clinical Psychology*. 1985; 53:512–519. DOI: 10.1037/0022-006X.53.4.512 [PubMed: 4031207]
- Chen CM, Dufour MC, Yi HY. Alcohol consumption among adults ages 18–24 in the United States: Results from the 2001–2002 NESARC survey. *Alcohol Research & Health*. 2004–2005; 28:269–280.
- Clark, SL. Doctoral dissertation. Los Angeles, CA: University of California; 2010. Mixture modeling with behavioral data. Retrieved from http://www.statmodel.com/download/Dissertation_v1.pdf
- Collins WA. More than myth: The developmental significance of romantic relationships during adolescence. *Journal of Research on Adolescence*. 2003; 13:1–24. DOI: 10.1111/1532-7795.1301001
- Collins RL, Parks GA, Marlatt GA. Social determinants of alcohol consumption: The effects of social interaction and model status on the self-administration of alcohol. *Journal of Consulting and Clinical Psychology*. 1985; 53:189–200. DOI: 10.1037/0022-006X.53.2.189 [PubMed: 3998247]
- Dawson DA. US low-risk drinking guidelines: An examination of four alternatives. *Alcoholism: Clinical and Experimental Research*. 2000; 24:1820–1829. DOI: 10.1111/j.1530-0277.2000.tb01986.x
- Dawson DA, Grant BF, Li TK. Quantifying the risks associated with exceeding recommended drinking limits. *Alcoholism: Clinical and Experimental Research*. 2005; 29:902–908. DOI: 10.1097/01.ALC.0000164544.45746.A7
- Derrick JL, Leonard KE, Quigley BM, Houston RJ, Testa M, Kubiak A. Relationship-specific alcohol expectancies in couples with concordant and discrepant drinking patterns. *Journal of Studies on Alcohol and Drugs*. 2010; 71:761–768. [PubMed: 20731983]
- Goldman MS, Brown SA, Christiansen BA, Smith GT. Alcoholism and memory: Broadening the scope of alcohol expectancy research. *Psychological Bulletin*. 1991; 110:137–146. DOI: 10.1037/0033-2909.110.1.137 [PubMed: 1891515]
- Fischer JL, Fitzpatrick J, Cleveland B, Lee JM, McKnight A, Miller B. Binge drinking in the context of romantic relationships. *Addictive Behaviors*. 2005; 30:1496–1516. DOI: 10.1016/j.addbeh.2005.03.004 [PubMed: 15885923]
- Fischer JL, Wiersma JD. Romantic relationships and alcohol use. *Current Drug Abuse Reviews*. 2012; 5:98–116. [PubMed: 22455505]
- Fleming CB, White HR, Catalano RF. Romantic relationships and substance use in early adulthood: An examination of the influences of relationship type, partner substance use, and relationship quality. *Journal of Health and Social Behavior*. 2010; 51:153–167. DOI: 10.1177/0022146510368930 [PubMed: 20617756]
- Floyd FJ, Cranford JA, Klotz Daughtery M, Fitzgerald HE, Zucker RA. Marital interaction in alcoholic and nonalcoholic couples: Alcohol subtype variations in wives' alcoholism status. *Journal of Abnormal Psychology*. 2006; 115:121–130. DOI: 10.1037/0021-843X.115.1.121 [PubMed: 16492103]
- Hoepfner BB, Paskausky AL, Jackson KM, Barnett NP. Sex differences in college student adherence to NIAAA guidelines. *Alcoholism: Clinical and Experimental Research*. 2013; 37:1779–1786. DOI: 10.1111/acer.12159

- Homish GG, Leonard KE. The drinking partnership and marital satisfaction: The longitudinal influence of discrepant drinking. *Journal of Consulting and Clinical Psychology*. 2007; 75:43–51. DOI: 10.1037/0022-006X.75.1.43 [PubMed: 17295562]
- Homish GG, Leonard KE, Kozlowski LT, Cornelius JR. The longitudinal association between multiple substance use discrepancies and marital satisfaction. *Addiction*. 2009; 104:1201–1209. DOI: 10.1111/j.1360-0443.2009.02614.x [PubMed: 19563563]
- Jones BT, Corbin W, Fromme K. A review of expectancy theory and alcohol consumption. *Addiction*. 2001; 96:57–72. [PubMed: 11177520]
- Kedia S, Relyea G. Gender effects on client–spousal collateral agreement levels in substance abuse posttreatment reports. *Addiction Research & Theory*. 2008; 16:23–36. DOI: 10.1080/16066350701651198
- Keyes KM, Grant BF, Hasin DS. Evidence for a closing gender gap in alcohol use, abuse, and dependence in the United States population. *Drug and Alcohol Dependence*. 2008; 93:21–29. DOI: 10.1016/j.drugalcdep.2007.08.017 [PubMed: 17980512]
- Leadley K, Clark CL, Caetano R. Couples' drinking patterns, intimate partner violence, and alcohol-related partnership problems. *Journal of Substance Abuse*. 2000; 11:253–263. DOI: 10.1016/S0899-3289(00)00025-0 [PubMed: 11026124]
- Leonard KE, Homish GG. Predictors of heavy drinking and drinking problems over the first 4 years of marriage. *Psychology of Addictive Behaviors*. 2008; 22:25–35. DOI: 10.1037/0893-164X.22.1.25 [PubMed: 18298228]
- Leonard KE, Mudar P. Husbands' influence on wives' drinking: Testing a relationship motivation model in the early years of marriage. *Psychology of Addictive Behaviors*. 2004; 18:340–349. DOI: 10.1037/0893-164X.18.4.340 [PubMed: 15631606]
- Leonard KE, Smith PH, Homish GG. Concordant and discordant alcohol, tobacco, and marijuana use as predictors of marital dissolution. *Psychology of Addictive Behaviors*. 2014; 28:780–789. DOI: 10.1037/a0034053 [PubMed: 24128287]
- Levitt A, Cooper ML. Daily alcohol use and romantic relationship functioning: Evidence of bidirectional, gender-, and context-specific effects. *Personality and Social Psychology Bulletin*. 2010; 36:1706–1722. DOI: 10.1177/0146167210388420 [PubMed: 21098471]
- Levitt A, Derrick JL, Testa M. Relationship-specific alcohol expectancies and gender moderate the effects of relationship drinking contexts on daily relationship functioning. *Journal of Studies on Alcohol and Drugs*. 2014; 75:269–278. [PubMed: 24650821]
- Levitt A, Leonard KE. Relationship-specific alcohol expectancies and relationship-drinking contexts: Reciprocal influence and gender-specific effects over the first 9 years of marriage. *Psychology of Addictive Behaviors*. 2013; 27:986–996. DOI: 10.1037/a0030821 [PubMed: 23276314]
- Maisto, SA.; Carey, KB.; Bradizza, CM. Social learning theory. In: Blane, HT.; Leonard, KE., editors. *Psychological theories of drinking and alcoholism*. New York, NY: Guilford Press; 1999. p. 106-163.
- McCrary BS. Treating alcohol problems with couple therapy. *Journal of Clinical Psychology*. 2012; 68:514–525. DOI: 10.1002/jclp.21854 [PubMed: 22504611]
- McCrary BS, Epstein EE, Cook S, Jenson N, Hildebrandt T. A randomized trial of individual and couple behavioral alcohol treatment for women. *Journal of Consulting and Clinical Psychology*. 2009; 77:243–256. DOI: 10.1037/a0014686 [PubMed: 19309184]
- Moos RH, Schutte KK, Brennan PL, Moos BS. Personal, family and social functioning among older couples concordant and discordant for high-risk alcohol consumption. *Addiction*. 2010; 106:324–334. DOI: 10.1111/j.1360-0443.2010.03115.x [PubMed: 20883458]
- Mudar P, Leonard KE, Soltysinski K. Discrepant substance use and marital functioning in newlywed couples. *Journal of Consulting and Clinical Psychology*. 2001; 69:130–134. DOI: 10.1037//0022-006X.69.1.130 [PubMed: 11302271]
- Mushquash AR, Stewart SH, Sherry SB, Mackinnon SP, Antony MM, Sherry DL. Heavy episodic drinking among dating partners: A longitudinal actor-partner interdependence model. *Psychology of Addictive Behaviors*. 2013; 27:178–183. DOI: 10.1037/a0026653 [PubMed: 22149955]
- Muthén, LK.; Muthén, B. *Mplus user's guide*. Los Angeles CA: Muthén & Muthén; 2008.

- National Institute on Alcohol Abuse and Alcoholism. Rethinking drinking: Alcohol and your health. Bethesda, MD: Author; 2009. [Archived by WebCite® at <http://www.webcitation.org/5wtRANIQ7>]
- Neighbors C, Lee CM, Lewis MA, Fossos N, Larimer ME. Are social norms the best predictor of outcomes among heavy-drinking college students. *Journal of Studies on Alcohol and Drugs*. 2007; 68:556–565. [PubMed: 17568961]
- Neumann T, Neuner B, Gentilello LM, Weiss-Gerlach E, Mentz H, Rettig JS, ... Spies CD. Gender differences in the performance of a computerized version of the Alcohol Use Disorders Identification Test in subcritically injured patients who are admitted to the emergency department. *Alcoholism: Clinical and Experimental Research*. 2004; 28:1693–1701. DOI: 10.1097/01.ALC.0000145696.58084.08
- Nylund KL, Asparouhov T, Muthén BO. Deciding on the number of classes in latent class analysis and growth mixture modeling: A Monte Carlo simulation study. *Structural Equation Modeling*. 2007; 15:182.doi: 10.1080/10705510701575396
- O'Donnell K, Wardle J, Dantzer C, Steptoe A. Alcohol consumption and symptoms of depression in young adults from 20 countries. *Journal of Studies on Alcohol*. 2006; 67:837–840. [PubMed: 17061000]
- O'Farrell TJ, Clements K. Review of outcome research on marital and family therapy in treatment of alcoholism. *Journal of Marital and Family Therapy*. 2012; 38:122–144. DOI: 10.1111/j.1752-0606.2011.00242.x [PubMed: 22283384]
- O'Hare TM. Drinking in college: consumption patterns, problems, sex differences and legal drinking age. *Journal of Studies on Alcohol*. 1990; 51:536–541. [PubMed: 2270062]
- O'Leary KD, Schumacher JA. The association between alcohol use and intimate partner violence: Linear effect, threshold effect, or both? *Addictive Behaviors*. 2003; 28:1575–1585. DOI: 10.1016/j.addbeh.2003.08.034 [PubMed: 14656546]
- O'Malley PM, Johnston LD. Epidemiology of alcohol and other drug use among American college students. *Journal of Studies on Alcohol*. 2002; (suppl 14):23–39. [PubMed: 12022728]
- Park MJ, Mulye TP, Adams SH, Brindis CD, Irwin CE. The health status of young adults in the United States. *Journal of Adolescent Health*. 2006; 39:305–317. DOI: 10.1016/j.jadohealth.2006.04.017 [PubMed: 16919791]
- Pedersen ER, LaBrie J. Partying before the party: Examining prepartying behavior among college students. *Journal of American College Health*. 2007; 56:237–245. DOI: 10.3200/JACH.56.3.237-246 [PubMed: 18089504]
- Quigley BM, Leonard KE. Alcohol and the continuation of early marital aggression. *Alcoholism: Clinical and Experimental Research*. 2000; 24:1003–1010. DOI: 10.1111/j.1530-0277.2000.tb04643.x
- Rapoza KA, Drake JE. Relationships of hazardous alcohol use, alcohol expectancies, and emotional commitment to male sexual coercion and aggression in dating couples. *Journal of Studies on Alcohol and Drugs*. 2009; 70:55–63. [PubMed: 19118392]
- Reinert DF, Allen JP. The Alcohol Use Disorders Identification Test: An update of research findings. *Alcoholism: Clinical and Experimental Research*. 2007; 31:185–199. DOI: 10.1111/j.1530-0277.2006.00295.x
- Rhule-Louie DM, McMahon RJ. Problem behavior and romantic relationships: Assortative mating, behavior contagion, and desistance. *Clinical Child and Family Psychology Review*. 2007; 10:53–100. DOI: 10.1007/s10567-006-0016-y [PubMed: 17318381]
- Roberts, LJ. From bickering to battering: Destructive conflict processes in intimate relationships. In: Noller, P.; Feeney, JA., editors. *Close Relationships: Functions, forms and processes*. New York, NY: Psychology Press; 2006. p. 325–351.
- Roberts LJ, Leonard KE. An empirical typology of drinking partnerships and their relationship to marital functioning and drinking consequences. *Journal of Marriage and the Family*. 1998; 60:515–526. DOI: 10.2307/353866
- Rossow I. Alcohol-related violence: The impact of drinking pattern and drinking context. *Addiction*. 1996; 91:1651–1661. [PubMed: 8972923]

- Rusbult CE, Martz JM, Agnew CR. The Investment Model Scale: Measuring commitment level, satisfaction level, quality of alternatives, and investment size. *Personal Relationships*. 1998; 5:357–391. DOI: 10.1111/j.1475-6811.1998.tb00177.x
- Saunders JB, Aasland OG, Babor TF, de la Fuente JR, Grant M. Development of the Alcohol Use Disorder Identification Test (AUDIT): WHO Collaborative Project on Early Detection of Persons with Harmful Alcohol Consumption—II. *Addiction*. 1993; 88:791–804. [PubMed: 8329970]
- Single E, Wortley S. Drinking in various settings as it relates to demographic variables and level of consumption: Findings from a national survey in Canada. *Journal of Studies on Alcohol*. 1993; 54:590–599. [PubMed: 8412149]
- Stets JE, Pirog-Good MA. Violence in dating relationships. *Social Psychology Quarterly*. 1987; 50:237–246.
- Straus MA, Hamby SL, Boney-McCoy S, Sugarman DB. The Revised Conflict Tactics Scales (CTS2): Development and preliminary psychometric data. *Journal of Family Issues*. 1996; 17:283–316. DOI: 10.1177/019251396017003001
- Substance Abuse and Mental Health Services Administration. Results from the 2013 National Survey on Drug Use and Health: Summary of National Findings. Rockville, MD: Author; 2014. (NSDUH Series H-48, HHS Publication No. SMA 14-4863)
- Testa M, Kubiak A, Quigley BM, Houston RJ, Derrick JL, Levitt A, ... Leonard KE. Husband and wife alcohol use as independent or interaction predictors of intimate partner violence. *Journal of Studies on Alcohol and Drugs*. 2012; 73:268–276. [PubMed: 22333334]
- Wang, J.; Wang, X. Mixture modeling. In: Balding, DJ., et al., editors. *Structural equation modeling: Applications using Mplus*. United Kingdom: Wiley; 2012. p. 289-390.
- Wechsler H, Kuo M, Lee H, Dowdall GW. Environmental correlates of underage alcohol use and related problems of college students. *American Journal of Preventive Medicine*. 2000; 19:24–29. [PubMed: 10865160]
- Wechsler H, Nelson TF. What we have learned from the Harvard School of Public Health College Alcohol Study: Focusing attention on college student alcohol consumption and the environmental conditions that promote it. *Journal of Studies on Alcohol and Drugs*. 2008; 69:481–490. [PubMed: 18612562]
- Wiersma JD, Cleveland HH, Herrera V, Fischer JL. Intimate partner violence in young adult dating, cohabitating, and married drinking partnerships. *Journal of Marriage and Family*. 2010; 72:360–374. DOI: 10.1111/j.1741-3737.2010.00705.x [PubMed: 20532190]
- Wiersma JD, Fischer JL. Young adult drinking partnerships: Alcohol-related consequences and relationship problems six years later. *Journal of Studies on Alcohol and Drugs*. 2014; 75:704–712. [PubMed: 24988269]
- Wiersma JD, Fischer JL, Cleveland HH, Reifman A, Harris KS. Selection and socialization of drinking among young adult dating, cohabitating, and married partners. *Journal of Social and Personal Relationships*. 2011; 28:182–200. DOI: 10.1177/026540751038008
- Wiersma, JD.; Fischer, JL.; Fitzpatrick, J. The role of romantic partners' drinking and binge patterns in relationship quality and alcohol-related problems. In: DiGuarde, KI., editor. *Binge drinking research progress*. Hauppauge, NY: Nova Science; 2009. p. 39-61.

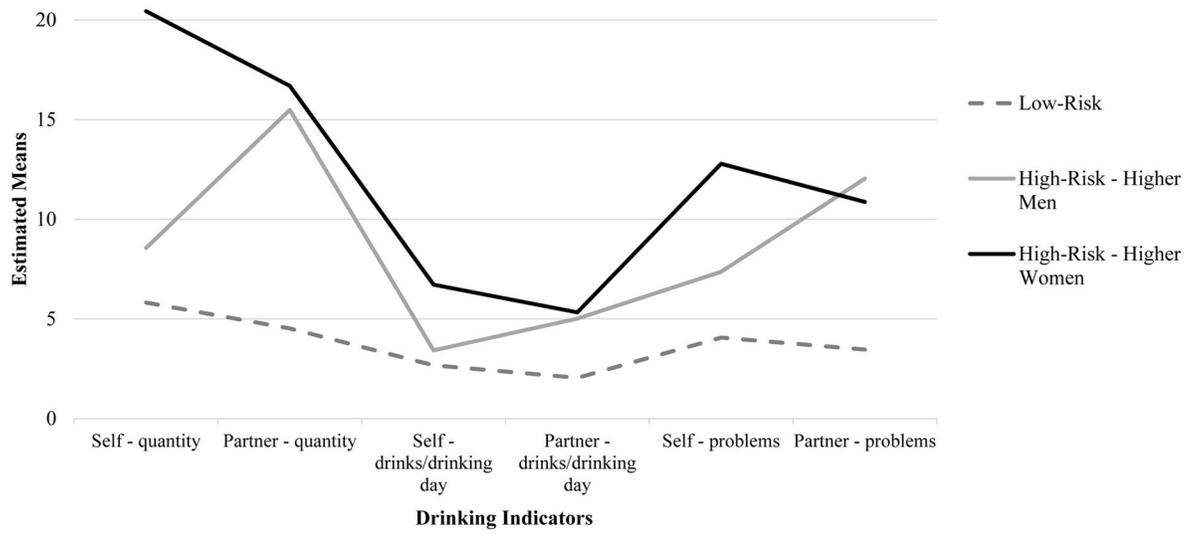


Figure 1. Estimated means for 3-class latent profile model. Quantity = number of drinks consumed per week. Drinks/drinking day = average number of drinks consumed on each day the participant reported drinking. Problems = Alcohol Use Disorders Identification Test score.

Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript

Table 1

Summary of Model Fit for Latent Profile Models

Classes:	AIC	BIC	Adjusted BIC	Relative Entropy	LMR p	Percentage of smallest group
1	9818.765	9862.637	9824.584	--	--	--
2	9364.980	9434.443	9374.193	.862	.001	33.20%
3	9224.371	9319.427	9236.979	.855	.047	15.81%
4	9067.938	9188.586	9083.940	.886	.131	10.49%

Note. AIC = Akaike Information Criterion, BIC = Bayesian Information Criterion, LMR = Lo- Mendell-Rubin likelihood ratio test.

Table 2

Summary of Comparisons among Latent Profiles for Relationship Factors

Dependent variable	Latent profile				F	η^2
	Low-Risk	High-Risk – Higher Men	High-Risk – Higher Women			
Intimate partner violence	3.19 (8.11) ^a	9.31 (25.27) ^b	8.95 (20.21) ^b		4.36 *	0.03
Relationship satisfaction	36.33 (9.59) ^a	33.10 (12.03) ^b	32.32 (11.82) ^b		3.82 *	0.03
Relationship alcohol expectancies						
Intimacy/Openness	22.14 (7.58) ^a	23.83 (6.59) ^a	26.85 (6.29) ^b		6.99 **	0.05
Social pleasure/Fun	22.42 (6.09) ^a	23.28 (5.44) ^{a,b}	25.08 (4.63) ^b		3.41 *	0.03
Sexual Enhancement	20.16 (6.90) ^a	21.28 (5.53) ^a	24.74 (4.82) ^b		8.30 ***	0.06
Assertion/Power	17.83 (6.22) ^a	19.83 (5.44) ^b	22.62 (4.93) ^c		11.16 ***	0.08

Note. Numbers represent mean estimates; standard deviations are enclosed in parentheses. Values that do not share the same superscript are significantly different from each other.

* $p < .05$.

** $p < .01$.

*** $p < .001$.